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Riparian grazing successes on Montana ranches

Riparian Grazing Successes

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on Montana Ranches

Dear Montanans,

It is with great pride that I introduce the ranchers and grazing associations described in this booklet. These individuals and groups have demonstrated their commitment to a healthy environment while also sustaining an economically viable livestock operation. They have worked hard over the years to inform themselves of new range and riparian management practices that will protect water quality and enhance their ranch productivity. They have sought and tried new ideas and customized them to their individual operations.

It is my hope that their personal commitment to a healthy environment and their demonstrated success as ranch and range managers will inspire all of us to use innovation, creativity, and land stewardship to ensure a healthy and productive agriculture industry far into the future.

Sincerely,

MARC RACICOT, Governor

TABLE OF CONTENTS

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Riparian grazing successes on Montana ra
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INTERVIEWS:

	Page
BANISTER RANCH - Wibaux County	3
COMES RANCH - Fergus County	5
CORNWELL RANCH - Valley County	7
DELANEY RANCH - Fergus County	9
HAUGHIAN RANCH - Prairie County	11
LANDRU RANCH - Fergus County	13
LEE RANCH - Fergus County	15
MARYSVILLE ALLOTMENTS - Lewis and Clark County	17
MILESNICK RANCH - Gallatin County	19
REUKAUF RANCH - Prairie County	21
SKINNER RANCH - Gallatin County	23
SNOWLINE GRAZING ASSOCIATION - Beaverhead County	25
WARM SPRINGS GRAZING ASSOCIATION - Madison County	27
WILSON RANCH - Sanders County	29

WHY THESE RANCHES WERE SELECTED

- *Recommended by a resource professional*
- *Geographically distributed across the state*
- *Represent a diversity of riparian management practices*
- *Demonstrate personal motivation and responsive management*

There are many more ranchers that we would have liked to interview; we apologize to all those we missed...

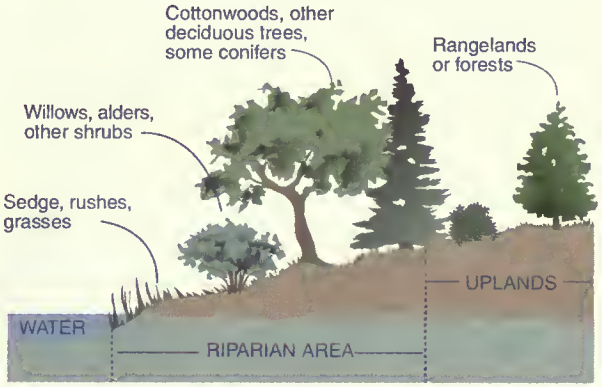
RIPARIAN MANAGEMENT PRACTICES USED BY RANCHERS AND GRAZING ASSOCIATIONS IN THIS BOOKLET

- **Develop** multiple pastures, vary season of use, and/or rest pastures:
  - *Cornwell*
  - *Delaney*
  - *Haughian*
  - *Landru*
  - *Lee*
  - *Milesnick*
  - *Reukauf*
  - *Skinner*
  - *Warm Springs Grazing Association*
- **Develop** numerous upland and off-stream stockwatering areas:
  - *Banister*
  - *Comes*
  - *Cornwell*
  - *Delaney*
  - *Lee*
  - *Reukauf*
  - *Skinner*
  - *Wilson*
  - *Warm Springs and Snowline Grazing Associations*
- **Limit** the time livestock spend in riparian areas by
  - (a) using high intensity-short duration grazing:
    - *Banister*
    - *Milesnick*
    - *Skinner*
  - (b) using riders to move livestock out of riparian areas:
    - *Marysville Allotments*
    - *Snowline Grazing Association*
    - *Warm Springs Grazing Association*
  - (c) resting during summer:
    - *Cornwell*
  - (d) improving uplands:
    - *Landru*
    - *Reukauf*
- **Allow** streambank vegetation to reestablish by
  - (a) fencing riparian areas to rest them:
    - *Comes*
    - *Milesnick*
    - *Skinner*
    - *Wilson*
  - (b) establishing water gaps and gravel pad stream crossings:
    - Milesnick
  - (c) planting willow cuttings:
    - *Comes*
    - *Skinner*
  - (d) cabling tree revetments along severely eroded reaches of stream:
    - *Comes*
- **Monitor** range, riparian, and stream channel condition to evaluate their grazing management:
  - *Cornwell*
  - *Delaney*
  - *Haughian*
  - *Lee*
  - *Marysville Allotments*
  - *Reukauf*
  - *Skinner*
  - *Snowline Grazing Assoc.*
  - *Warm Springs Grazing Association*

HOW THEY BENEFIT

- Increased abundance and diversity of vegetation along streambanks
- Reduced streambank erosion and property loss
- Increased forage quality and production; fewer weeds
- Higher weaning weights; healthier livestock; higher conception rates; lower calf mortality
- Improved water quality and fisheries
- Improved range and riparian condition
- Reduced livestock injury on icy or muddy streambanks
- Increased streamflows
- Better cooperation from public land management agencies

WHAT IS A RIPARIAN AREA?



Riparian areas are the "green zones" of water-loving vegetation along streams, rivers, lakes, reservoirs, and springs. They protect water quality, maintain stream function, and provide important fish and wildlife habitat. If managed properly, they can provide many benefits to people.

WLN 95-156429

ABOUT THIS PUBLICATION

The project sponsors would like to thank the ranchers and grazing associations who agreed to be interviewed and generously volunteered their time to enhance our understanding of their operations and management practices.

We gratefully acknowledge the assistance of many individuals from a variety of agencies who donated their time to conduct and write the interviews and photograph the operations.

We thank the conservation and agricultural organizations, conservation districts, and state and federal agencies who provided financial support.

This booklet is part of a larger range/riparian management information and training program that includes displays, monitoring notebooks, videos, and workshops.

FOR MORE INFORMATION CONTACT PROJECT SPONSORS

Rangeland Resource Program and
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-and-
MSU Extension
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Montana State University
Bozeman, MT 59717 (406) 994-5566

Stockwater pond with healthy riparian vegetation along banks.

BANISTER RANCH

Wibaux County

by Pete Husby

PRACTICES

- *Established numerous small pastures*
- *Initiated short duration, high-intensity grazing, followed by long rest period (up to 23 months)*
- *Developed numerous livestock watering sources*
- *Renovated pasture and hayland*

LOCATION AND OWNERSHIP

The Ray Banister ranch is located between Baker and Wibaux, Montana. The area normally receives 14 to 16 inches of precipitation annually and varies from rolling grassland to steep ridges dissected by woody riparian draws.

The ranch operation relies entirely on deeded and leased private land. There are 670 acres of hayland and approximately 5,500 acres of range which support 220 cow-calf pairs, 20 yearlings, and 10 bulls.

MANAGEMENT HISTORY

Ray Banister's stepfather was in the purebred cattle business and subdivided part of the ranch into numerous, relatively small breeding pastures. This configuration helped set the stage for Ray to move into intensive grazing management in the late 1970s. He worked with the USDA Natural Resources Conservation Service to develop a Great Plains Conservation Program contract that provided for the cost-sharing of livestock water developments, pasture and hayland renovation, deferred grazing, and more cross-fencing.

CURRENT LIVESTOCK MANAGEMENT

Ray notes that natural processes range from one extreme to the other. Drought is often followed by floods. Grasshoppers swarm across the land one year and are gone the next. Deer populations build up to large numbers and then crash.

Thinking about this pattern in nature, Ray reasoned that a cycle of heavy grazing followed by a long rest would eliminate much of the guesswork in grazing management. Heavy grazing forces livestock to use all of the various forage plants. "If the cattle graze lightly, they eat only the plants they like, causing the less palatable plants to increase at the expense of the preferred ones." Heavy grazing also ensures that the cattle will open up thick patches of brush. Once sunlight begins to penetrate these dense, brushy areas again, grasses can better compete with noxious weeds. This type of "hard hit" on a pasture helps trample grass seed into the soil and makes room for the establishment of new grass seedlings. The vast herds of buffalo that once roamed the plains probably grazed the range in this way. Intensive grazing also simulates the effects of fire or hail.

"The impacts of severe grazing must by offset by a long rest period to allow the forage plants to recover," explains Ray. "Regrazing a plant before it has completely recovered from earlier grazing is very damaging to a plant's vigor and reproduction."

Ray uses half of his 38 pastures each year. Pasture sizes vary. To achieve the "hard hit-long rest" cycle, each pasture is grazed heavily by the entire herd for about 20 days every other year. Approximately 1 AUM (animal unit month) per acre is harvested. The pastures are then rested for 23 months. Ray has found that after providing a long rest it is not necessary to vary the season of grazing.

Ray uses low (milk) production Hereford cattle, which are known to breed successfully and perform well under the stress of this type of management. "The long rest produces a lower quality, lower protein forage. High production cows may crash," Ray explains. "It took me three years to modify my herd to adjust to the low protein grasses."

BENEFITS

Ray's management provides many benefits. The long rest period following grazing produces abundant standing forage for a drought reserve. Ray never ran out of forage during the last decade of drought years and was even able to increase his cattle numbers. Long rest periods allow the production of litter to cover the soil surface, which increases the infiltration of rainfall and snowmelt into the soil and limits grasshopper reproduction. Running the cattle in one herd makes them easier to observe and shortens the grazing period in any one pasture. A shorter grazing period lessens the opportunity for grazing of regrowth, increasing forage production.

The riparian resource has also benefited. Long rest periods ensure that woody vegetation in riparian areas is maintained for wildlife habitat and livestock shade and forage. Woody draws in his pastures have an excellent diversity of shrub and tree species with a variety of age and size classes. Streambanks are well vegetated with desirable grasses and sedges. Ponds are surrounded by healthy wetland vegetation, and water quality is excellent. Montana Department of Fish, Wildlife and Parks personnel are impressed with the abundant and diverse wildlife populations present on the ranch.

In summary, Ray's grazing management strategy seeks to mimic the historic grazing patterns of bison. Dr. Rodney Heitschmidt, director of the Fort Keough Livestock and Range Experiment Station near Miles City, observed, "There is no better way to manage the rangeland resource than by using the methods employed on the Banister ranch."

For more information, contact Ray Banister at 795-2604 or Pete Husby at 587-6902.

Pete Husby is the state biologist for the USDA Natural Resources Conservation Service (NRCS) in Bozeman.

A diversity of trees and shrubs are present in the woody draws.

BENEFITS

- *Grazed all forage plants more uniformly*
- *Minimized grazing of plant regrowth*
- *Improved conditions for grass to compete with weeds in brushy areas*
- *Allowed for trampling of grass seed into soil*
- *Achieved abundant forage production*
- *Increased soil infiltration*
- *Reduced grasshopper infestation*
- *Increased diversity of shrub and tree species in woody draws*
- *Achieved healthy wetland vegetation around stockwater ponds*
- *Achieved excellent water quality*
- *Maintained abundant and diverse wildlife populations*

PRACTICES

- *Fenced off the stream from his 200- to 300-acre winter pasture*
- *Developed alternative stockwater several hundred yards from the creek*
- *Cabled tree revetments along severely eroded banks*
- *Planted 1,500 willow cuttings along eroded creek sections*

COMES RANCH

Fergus County

by Ted Hawn

LOCATION AND OWNERSHIP

The 4,000-acre Comes ranch is located south of Lewistown in the foothills of the Snowy Mountains. The ranch straddles East Fork Big Spring Creek, a major tributary of the well-known Big Spring Creek near Lewistown.

MANAGEMENT HISTORY

For years, the ranch operation fed livestock in a 200- to 300-acre riparian pasture along East Fork Big Spring Creek, from November to May. As many as 400 head of cattle were contained in the pasture. Because the creek was the only source of water, there was a lot of livestock activity near the stream channel. Streambank trampling, compaction, and erosion were severe because of the wet soils .

Sonny and Mary Lee Comes next to their riparian fencing and a well-vegetated East Fork Big Spring Creek

In 1988, Sonny and Mary Lee Comes initiated a riparian improvement project with assistance from the local USDA Natural Resources Conservation Service (NRCS)/Fergus County Conservation District. The purpose of the project was to demonstrate low-cost techniques that promote the recovery of degraded riparian areas.

CURRENT LIVESTOCK MANAGEMENT

The Comeses decided to fence off the creek rather than implement a rotational grazing system. Alternative stockwater was developed by drilling a well several hundred yards from the creek. A pipeline and a series of four tanks now provide stockwater for this pasture and adjoining riparian pastures. Being able to provide off-stream water was critical to the success of this riparian restoration effort.

Tree revetments made of 40- to 50-foot ponderosa pine tree trunks were cabled along severely eroded outer bends of the creek. Fifteen hundred willow cuttings were obtained from nearby stands and planted along eroded sections of the creek.

BENEFITS

After five years, the tree revetments have collected so much sediment and vegetative growth that they are almost obscured from sight. With grazing pressure removed, the willows, along with a healthy herbaceous cover, have successfully established along the streambanks. Wildlife habitat is greatly improved.

The Comeses are pleased with the results of their riparian improvement project. Sonny no longer has to chop ice in the creek to provide water for his stock during the winter. Another bonus for the Comeses is "not having to pull the critters out of the ice-covered creek each winter."

The Comes ranch on East Fork Big Spring Creek, prior to fencing off the creek from the winter pasture. Note the murky water in the foreground.

The Comes ranch two years after fencing off the creek and planting willows. The water in the stream is running considerably clearer.

This cooperative project was made possible with grants from the Departments of Natural Resources and Conservation and Fish, Wildlife and Parks; technical assistance from the Fergus County Conservation District and NRCS field office; and of course, the efforts of Sonny and Mary Lee Comes.

For more information, contact the Comeses at 538-3508 or Ted Hawn at 538-7401. A video describing the project and its outcome was produced in 1991 and is available from the Fergus County Conservation District / NRCS field office.

Benefits

- *Established healthy herbaceous cover along the streambank*
- *Reduced bank trampling and erosion*
- *Reduced sedimentation and improved water quality*
- *Eliminated need to chop ice in the creek to provide winter stockwater*
- *Eliminated task of pulling cattle out of frozen creek*
- *Improved wildlife habitat*
- *Improved fisheries*
- *Improved aesthetics*

Ted Hawn is a resource conservationist for the Fergus County NRCS field office.

PRACTICES

- *Created six riparian pastures*
- *Avoided summer grazing of riparian pastures*
- *Grazed riparian pastures during spring and fall, followed by 24 months rest*
- *Developed stockwater*
- *Implemented three-pasture deferred-rotation grazing system on summer upland pastures*
- *Cooperatively developed allotment management plan with BLM*
- *Implemented riparian monitoring program*

CORNWELL RANCH

Valley County

by John Fahlgren

LOCATION AND OWNERSHIP

The Cornwell ranch is located 15 miles northwest of Glasgow. The ranch includes the Buggy Creek allotment which has approximately 47,000 acres of deeded, state, and USDI Bureau of Land Management (BLM) public lands. Buggy Creek, Canyon Creek, Unger Coulee, Spring Creek, Crooked Creek, Bear Creek and Wire Grass Coulee are intermittent streams that either originate in or traverse the ranch (and allotment). Most of the riparian areas occur on private land while most of the uplands occur on BLM or state lands.

Today, the Cornwell operation involves three generations: Howard (Tiny) and Walter (Bill) Cornwell; sons Clay, Lee, Lynn, and their wives; and their children.

MANAGEMENT HISTORY

The Cornwell ranch is one of the oldest ranches maintained by the same family in Valley County. Bill and Tiny's father, Robert Lee Cornwell, started the ranch on Buggy Creek in 1892. The ranch was primarily a sheep operation from then until 1947. The original ranch included much of the current Buggy Creek allotment. The ranch has expanded substantially over the years, but the land within the Buggy Creek allotment still remains the "heart of the ranch," according to Bill.

Bill remembers that during the sheep operation days most of the use in the creek bottoms was during the winter. When the ranch converted to cattle, the creek bottoms continued to receive heavy grazing use, to the point where Bill remembers a first-time observer noting, "those creek bottoms aren't worth anything; nothing grows there." Season-long use of the riparian areas continued from April through November until 1989. Bill first observed that big cottonwoods were beginning to die in the dry year of 1961. Ten years of drought in the 1980s, combined with season-long grazing, accelerated the tree loss and prevented any new seedlings from becoming established.

Cottonwood seedlings becoming established on Buggy Creek (monitoring site).

CURRENT LIVESTOCK MANAGEMENT

In 1988, the Cornwell Ranch cooperated with the BLM to develop an allotment management plan. The goal of the plan was to improve the condition of the riparian areas on the southern half of the Buggy Creek allotment. The plan needed to provide sheltered calving pastures during April and May, and change from the old pattern of returning cattle year after year to the same pastures, at the same time, each year. To accomplish this goal, six riparian pastures were created and a rest-rotation grazing system was implemented. Each year, four pastures receive both spring and fall grazing, while two pastures receive 24 months rest. A three-pasture deferred-rotation system was implemented on summer upland pastures, where each pasture is grazed at a different time each year and no pasture receives a complete year of rest.

To implement the management plan, BLM provided fencing materials and Cornwells built the fences. Cornwell ranch also built three reservoirs, and BLM built several more to provide the water needed to make the new pasture arrangement work.

Four of the riparian pastures are used to calve 750 cows while the other two pastures are rested. Cattle are turned on the pastures April 1. After calving, cattle are moved about June 1 to the three-pasture deferred-rotation system. In October, cattle are moved into the riparian pastures which were grazed the previous spring. These pastures are grazed until December. Each pasture receives two years of spring and fall use and one year of complete rest in a three-year period.

Buggy Creek allotment panoramic view.

The Cornwells instituted a riparian monitoring program on their land in 1991 with the help of Dr. John Lacey, former Montana State University Extension Range Specialist. Since then, Madylon Cornwell, Lee's wife, has taken monitoring photos each year. The BLM uses coverboard photos on BLM's riparian areas, and photographs and takes a species count of several 3' x 3' plots in the uplands.

BENEFITS

The monitoring site photos already tell a story of rapid recovery of the riparian areas. The increased quantity and diversity of riparian vegetation is helping to stabilize streambanks. Cottonwood, willow, and ash trees are becoming established, replacing the dying older trees. The quick response of vegetation to the rest-rotation system has been rewarding. Beaver were observed in Buggy Creek and Unger Coulee in 1994 and the Cornwells hope this is a sign of even more help for the streams. In addition, riparian nesting habitat for sharptail and sage grouse, waterfowl, and other birds has greatly improved.

Before the new management plan, some calving was done in a dry lot before turning onto the range. Today, the diversity and density of shrubs and trees in the riparian pastures provide excellent shelter for calving on the range. The fall pastures contribute to a productive livestock operation, providing nutritious forage prior to weaning to boost calf weights and, after weaning, to get mother cows in shape for winter. The deferred-rotation system on summer upland pastures has improved conditions there and provides plenty of dependable forage.

During some of the past drought years, Cornwells have had to move cattle out of the area - a risky and expensive step they hope can be avoided by improved range management. The Cornwells like the feeling that comes with seeing the land heal and knowing that their management is helping. As Bill puts it, "Life tomorrow is so dependent upon what we do today. Only if there is a flourishing range resource can there be a prosperous fourth generation on the Cornwell ranch in the future."

For more information, contact the Cornwell Ranch at 367-5246 or John Fahlgren at 228-4316.

BENEFITS

- *Increased quantity and diversity of riparian vegetation*
- *Stabilized streambanks*
- *Increased numbers of cottonwood, willow, and ash trees*
- *Provided excellent shelter for calving on the range*
- *Improved wildlife habitat*
- *Provided dependable, nutritious forage in both riparian and upland pastures*

John Fahlgren is a range conservationist for the BLM's Valley Resource Area office in Glasgow.

Excellent management of riparian area along ephemeral South Fork Bear Creek.

DELANEY RANCH

Fergus County

by Ted Hawn

LOCATION AND OWNERSHIP

The Delaney Ranch lies east of the Judith Mountains 20 miles north of Grass Range in central Montana. The ranch is in the semi-arid outskirts of the Missouri Breaks and is mostly rolling grassland and sagebrush interspersed with rugged badlands. It receives only 10 to 12 inches of precipitation annually. Three ephemeral drainages dissect the ranch: Box Elder Creek, Little Bear Creek, and Big Bear Creek.

Dick and Georgia Delaney have operated the ranch for over 30 years, taking over the ranch from Dick's father. The ranch contains more than 20,000 acres of deeded and leased USDI Bureau of Land Management (BLM) land. The Delaneys are members of the Crooked Creek and Chain Butte Grazing Districts.

PRACTICES

- *Practiced low to moderate grazing intensity*
- *Practiced rest-rotation grazing, resting each pasture for a full growing season every third year*
- *Developed numerous stockwater tanks from artesian wells*
- *Monitors annual plant growth and forage use*

MANAGEMENT HISTORY

The ranch was homesteaded around 1900 and managed as a large sheep operation until the Delaney family purchased it in the 1940s and changed to cattle. The ranchland was in poor to fair condition for the first half of the century. Dick's father always tried to leave one-third of the grass to protect next year's growth and to hold winter snows for soil moisture.

CURRENT LIVESTOCK MANAGEMENT

The Delaneys manage their upland and riparian areas together in the same pasture. They have 8 to 10 pastures and practice rest-rotation grazing, resting each pasture on the ranch for a full growing season every third year. Eventually, they'd like to rest each pasture for a full year every third year. They have developed and carefully placed artesian wells to provide year-round, quality stockwater. The stockwater is distributed through pipelines and tanks to disperse livestock and spread out forage use. The current year's growth and livestock use of the forage are monitored annually.

The Delaneys' management philosophy respects the fragile nature of the area and limits grazing to low to moderate intensities. They modify their management in response to fluctuations in the weather, enabling the ranch to be successful in wet and dry years.

BENEFITS

Riparian habitat is excellent along ephemeral creeks. Vigorous stands of willow and box elder dominate the riparian area, protecting the streambanks and providing valuable wildlife habitat. On the ranch, wildlife abound in diversity and density. The Delaneys recently completed a "Partners for Wildlife" project with the U.S. Fish and Wildlife Service (USFWS). They improved a 13-acre reservoir on the ranch that is now used exclusively by wildlife and migratory waterfowl.

The drought years of the 1980s have not affected the ranch. Abundant carry-over forage and reliable stockwater enable the Delaneys to handle the recurrent dry years. Weed problems are insignificant because the vigorously growing grasslands are able to out-compete these invaders.

Dick and Georgia Delaney's range management is exemplary. The ranch is a showcase for rangeland ecosystem diversity. USDI Bureau of Land Management range conservationist, Tom Maxwell, describes the Delaneys' grazing management as one of the best. "Their level of management maintains excellent ecological condition of the rangelands."

For more information, contact Dick and Georgia Delaney at 428-2112 or Ted Hawn at 538-7401.

Ted Hawn is a resource conservationist for the Fergus County Natural Resources Conservation Service field office.

Dick and Georgia Delaney on the Delaney ranch, 20 miles north of Grass Range

Benefits

- *Achieved abundant and diverse riparian vegetation*
- *Increased the number and diversity of wildlife and waterfowl*
- *Achieved excellent rangeland condition*
- *Minimized weeds*
- *Achieved abundant carry-over forage for dry years*

The 13-acre reservoir is part of the USFWS "Partners for Wildlife" project on the Delaney Ranch

Custer Creek and adjacent riparian areas.

HAUGHIAN RANCH

Prairie County

by Scott Kaiser

LOCATION AND OWNERSHIP

Located 14 miles west of Terry along the Yellowstone River, the Haughian ranch managed by brothers Quinn and Terry Haughian encompasses 80,000 acres of rough and rolling rangeland. Historic Custer Creek is the primary stream flowing through the length of the ranch, which is a mixture of deeded and public land.

MANAGEMENT HISTORY

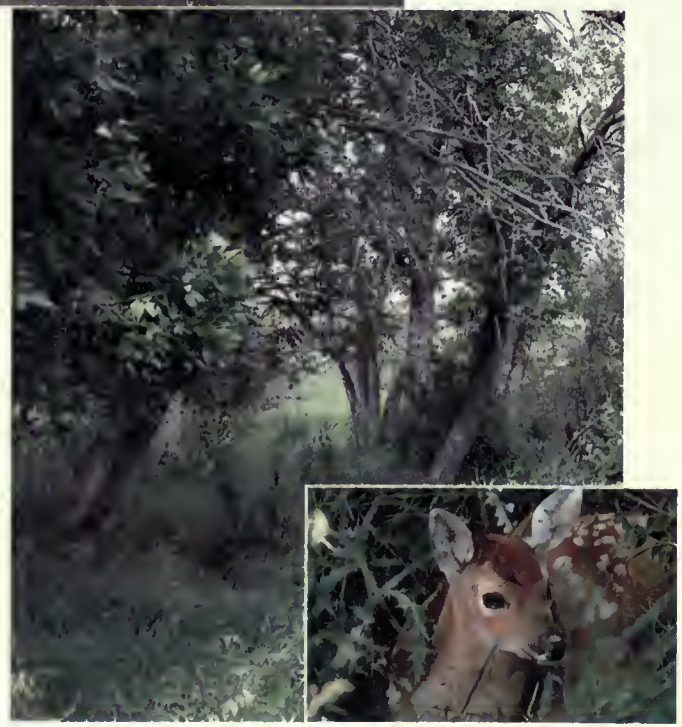
The Haughian ranch has a long history of very hard use. In the 1930s, horses were the major users of the range. Later, cattle and sheep were the main users. In 1970, the ranch management changed to the present cow-calf/yearling operation.

CURRENT LIVESTOCK MANAGEMENT

The Haughian ranch has developed numerous pastures and varies the time of year that cattle graze each pasture. They keep pasture sizes small and vary the number of animals grazing these pastures. The result is good to excellent range condition. "The manual on riparian management is still being written," Quinn says. "I can't find anybody who can tell me what time of year is best [to graze cattle near streams] and why. I get lots of different answers, but there is no set rule. Expert opinion favors rotating use through different seasons, which is pretty much how we've done it."

PRACTICES

- *Developed numerous pastures*
- *Varied the season each pasture is grazed*
- *Varied the number of animals grazing each pasture*
- *Kept pasture size small*
- *Cooperated in projects with government agencies and private organizations*



Wildlife area adjacent to Custer Creek.

BENEFITS

The Haughians' management has produced significant benefits. Streambanks are well vegetated. Even though these riparian areas occasionally have extremely heavy runoff, very little erosion is evident. Reduced streambank erosion means less property loss and improved water quality. Late season streamflows have increased considerably, and wildlife habitat is improving.

Another benefit is the close cooperation the Haughians have experienced with Ducks Unlimited and the USDI Bureau of Land Management (BLM) in a project to maintain and extend the life of a 60-acre reservoir on the ranch. The reservoir provides important wildlife benefits and recreational opportunities.

Haughian Livestock Company won the 1991 BLM Riparian Stewardship Award, one of only ten awarded in the nation that year and the only one in Montana. The Haughians say they think the award resulted as much from their willingness to cooperate with various agencies as from what they have actually accomplished. Their cooperative relationship with the BLM has made other projects possible, such as fencing, that might not have occurred otherwise.

Ducks Unlimited project area

There is no doubt the Haughians' grazing management has benefited the ranch, and land and water resources. The riparian areas are healthy, wildlife is abundant, and calf weaning weights are increasing. The Haughian ranch is a fine example of proper grazing management in a riparian area.

For more information, contact Quinn or Terry Haughian at 637-2192 or Scott Kaiser at 232-6359.

Scott Kaiser is the resource specialist for the Miles City Regional Office of the Montana Department of Natural Resources and Conservation.

Quinn Haughian reviewing lands damaged by spring flooding on Custer Creek.

BENEFITS

- *Increased calf weaning weights*
- *Increased streambank vegetation*
- *Reduced streambank erosion and property loss*
- *Improved water quality*
- *Extended life of reservoir, providing wildlife benefits and recreational opportunities*
- *Increased late season streamflows*
- *Improved wildlife habitat*
- *Achieved good to excellent range condition*
- *Won BLM Riparian Stewardship Award*

PRACTICES

- *Implemented a time-controlled grazing system*
- *Divided four large pastures into seven smaller pastures*
- *Rested pastures 81 to 93 percent of the year*
- *Annually varied the season each pasture was grazed*
- *Implemented a range-chiselling program*

LANDRU RANCH

Fergus County

by Larry Bloxsom

East Fork Armells Creek, with Judith Mountains in the backgroun

LOCATION and OWNERSHIP

The Landru ranch is 10 miles east of Hilger, near the foothills of the Judith Mountains. The ranch consists of approximately 2,000 acres of rolling grassland, and some dryland cropland. The ranch includes one mile of the East Fork of Armells Creek, 1/2 mile of Box Elder Creek, an intermittent stream called Badland Creek, and numerous reservoirs. The area receives 10 to 12 inches of precipitation annually.

MANAGEMENT HISTORY

Doug Landru's grandfather homesteaded the ranch in 1910. Prior to this time, sheep had continuously grazed the area. His grandfather continued the continuous grazing practices, as was the custom at that time. Around 1964, Doug's parents switched to raising cattle. They divided the ranch into four pastures and rotated the stock. However, none of the pastures was allowed to rest for an entire growing season. From 1968 to 1979, the ranch was leased out and, once again, overgrazed. Doug took over the management of the ranch in 1979 and continued running cattle using the four-pasture rotation system. In 1985, with the help and advice of Sam Short, USDA Natural Resources Conservation Service range conservationist, Doug divided the four pastures into seven and started a time-controlled grazing system.

Results of range chiselling program.

CURRENT LIVESTOCK MANAGEMENT

Under the time-controlled grazing system, which is a specific type of rest-rotation grazing, the riparian areas are included in the seven-pasture system and are given no particular emphasis. The riparian areas are essential to the system since the livestock water in these areas. With the time-controlled system, a pasture is rested 81 percent to 93 percent of the year. The grazing period for each pasture is changed each year to allow the grasses to set seed periodically.

In 1985, Doug also started a range-chiselling program to increase his rangeland forage production. Chiselling breaks up the club moss and opens up the soil so water can penetrate. Doug chisels 200 to 300 acres each year using a spike chisel that penetrates the soil about 6 inches. An electric fence is used to exclude the cattle from the newly chiselled ground for a full year, plus a growing season, to give it the necessary rest.

The costs associated with range chiselling are more than offset by the increase in forage production. The biggest cost is the manager's time, as management is increased.

BENEFITS

The range chiselling and time-controlled grazing system have increased forage production, which in turn has allowed an increase in the stocking rate. The stocking rate has varied, according to the dictates of Mother Nature, but has never dropped below the stocking rate before implementation of the system. The increased rangeland forage has also reduced grazing pressure in the riparian areas.

Since the range-chiselling program and the time-controlled grazing system were initiated, Doug has observed an increase in the weaning weights of his calves. The first few years brought a modest, 10-pound increase. Over the last three years, as the forage increased, there has been a 20-pound increase. The cows have a conception rate of 98 percent, and 100 percent conception has occurred in some years. During this time, the same set of bulls and the same cow herd were used.

Doug Landru next to healthy riparian vegetation along Box Elder Creek.

Since the time-controlled grazing requires moving the cattle more frequently, Doug sees the animals more often and is able to treat any sick animals more promptly. By spending more time in the grazing areas, he has improved his observation skills and knowledge of the plants' growth responses to grazing management.

The riparian areas are in good condition, with abundant vegetation along the streambanks. Willows grow abundantly along the perennial streams, and no streambank erosion is evident.

For more information, contact
Doug Landru at 538-7801 or Larry Bloxsom at 444-6668.

Larry Bloxsom is the rangeland improvement loan officer for the Montana Department of Natural Resources and Conservation in Helena.

Benefits

- *Increased forage production*
- *Increased stocking rates*
- *Reduced grazing pressure on the riparian areas and maintained them in good condition*
- *Increased weaning weights up to 20 pounds per calf*
- *Achieved 98 to 100 percent cow conception rate*
- *Increased opportunity to observe livestock and care for sick animals*
- *Maintained well-vegetated streambanks with no erosion or sedimentation*
- *Improved observation and knowledge of plants' growth responses to grazing management*

Cattle graze riparian area on the ranch.

LEE RANCH

Fergus County

by Larry Bloxsom

LOCATION AND OWNERSHIP

The Lee ranch is located northeast of Judith Gap in central Montana. The ranch lies at 5,400 to 5,600 feet on the south side of the Snowy Mountains. The ranch is dissected by roughly 4 to 5 miles of perennial streams including Neil Creek, Timber Creek, Blake Creek, West Fork Blake Creek, and Galloway Creek.

The Lees purchased an 880-acre ranch in 1967 and have added to it over the years. The ranch now consists of 13,000 acres of deeded and leased land. Bob Lee runs 350 to 400 cows on the rangeland and has approximately 2,000 acres in crops.

PRACTICES

- *Established 24 pastures, rotate livestock frequently*
- *Provided adequate rest for pastures after grazing; avoided grazing the same pasture twice in a growing season*
- *Developed springs and pipelines for off-stream stockwater*
- *Grazed wet riparian areas in late fall or winter*
- *Used riparian areas for shelter in winter and early spring*
- *Monitored condition of range and riparian areas*

MANAGEMENT HISTORY

At the time of the Lees' purchase, the range had been overused, and the riparian areas were in fair condition.

Bob Lee shows a new upland spring development.

CURRENT LIVESTOCK MANAGEMENT

The primary grazing system is frequent pasture rotation. "I just like to move them," Bob explains. He has established 24 pastures and rotates about 80 pairs through a 4-pasture system. Many springs in the uplands have been developed for stockwater. "I love to develop water," Bob says. "By developing new stockwater, I can graze less-used areas and draw cattle away from riparian areas."

In the pastures with riparian areas, stock tanks are located out of the riparian areas to draw livestock away and help reduce trampling of these areas. Riparian areas are given adequate rest after each grazing period and are generally not grazed twice in a growing season. Particularly wet riparian areas are grazed in late fall or winter. The riparian areas are also used in the winter to provide shelter. Some of the riparian areas are used for a short time in the spring when pairs are turned out after calving. The bunches are limited to about 100 pairs and are moved as soon as weather permits. Bob currently monitors the condition of range and riparian areas with photos.

BENEFITS

Under his frequent pasture rotation, the range has improved and is presently in good condition. The riparian areas on the Lee ranch are in very good to excellent condition. The frequent pasture rotation, followed by a long rest, minimizes any grazing impacts to the riparian areas. The abundant growth of shrubs and trees in the riparian areas provides excellent protection for all of the stock in winter and for the young calves in spring. Young aspen and willow are establishing in many areas. The water quality in the streams is good.

Although Bob does not put a specific dollar value on having his riparian areas in good condition, he feels that the benefits of a healthy riparian area will be reflected in the general health and vigor of the livestock produced on his ranch. "Keeping the riparian areas in good condition is just part of good range practice," says Lee.

For more information, contact Bob Lee at 473-2380 or Larry Bloxsom at 444-6668.

Bob Lee next to a new stockwater tank.

Riparian area in excellent condition on the Lee ranch.

Benefits

- *Improved rangeland to good condition*
- *Achieved very good to excellent condition in riparian areas*
- *Used abundant riparian trees and shrubs to provide shelter for all livestock in winter and for new calves in spring*
- *Maintained good water quality*
- *Encouraged aspen and willow regeneration*

Larry Bloxsom is the rangeland improvement loan officer for the Montana Department of Natural Resources and Conservation in Helena.

Range rider, Bob Newby, works for all three operators.

MARYSVILLE ALLOTMENTS
Lewis and Clark County

by Rich Adams

LOCATION AND OWNERSHIP

Marysville is a historic mining town about 25 miles northwest of Helena. Surrounding the town are three grazing allotments: Drumlummon/Skelly—Settle Ranch Company, operator; Edwards Mountain—Harvey Frank Robbins, Jr., operator; and Empire Creek—Grady Livestock Company, operator. These are all family cattle ranches. The allotments comprise about 10,000 acres of USDI Bureau of Land Management (BLM) land, 5,000 acres of private land, and 5,000 acres of USDA Forest Service (USFS) land.

The area is typically steep, mountainous country dissected by numerous drainages. Elevations run from 5,000 to 7,300 feet. The vegetation is a mosaic of coniferous forests and grassland parks. The area receives about 21 inches of rain annually.

PRACTICES

- *Hired range rider who visits allotments almost daily*
- *Moved livestock out of riparian areas and into underused upland areas*
- *Monitors use levels*
- *Practiced a multi-pasture, rest-rotation grazing system*
- *Developed off-stream stockwater*

MANAGEMENT HISTORY

The Marysville area has been grazed primarily by cattle and horses for over 100 years. All three allotments were initially grazed on a season-long basis when first leased. The lack of cross-fencing on the allotments was causing severe livestock distribution problems. Plants had little chance to recover from grazing before being regrazed. Lack of water in certain areas exacerbated the problem by leaving some areas underused and concentrating use in riparian areas and near water developments.

CURRENT LIVESTOCK MANAGEMENT

The Drumlummon/Skelly plan was implemented in the late 1960s; the other two were implemented in the mid-1980s. The three grazing plans were developed cooperatively by the operators, BLM, USFS, and the USDA Natural Resources Conservation Service (NRCS). Each operator grazes about 230 cow/calf pairs.

All three grazing allotment management plans rotate livestock through a series of pastures. For example, the Empire Creek Allotment Management Plan uses a four-pasture rest-rotation grazing system where three pastures are grazed for five weeks each, from June 15 through late September each year, and one pasture is rested for the entire year. The time of grazing varies each year for each pasture.

EMPIRE CREEK ALLOTMENT GRAZING MANAGEMENT PLAN

	Year 1	Year 2	Year 3	Year 4
Pasture 1	**A**	**B**	**C**	**REST**
Pasture 2	**B**	**A**	**REST**	**A**
Pasture 3	**REST**	**C**	**A**	**B**
Pasture 4	**C**	**REST**	**B**	**C***

*(*Due to distance from the home ranch, this pasture cannot be grazed early.)*

Prior to 1989, the grazing plans were meeting most of the management objectives, but riparian areas and some upland sites were still experiencing poor distribution of livestock and heavy use of favored areas. Unplanned livestock use was also a problem; cattle were sometimes found in the wrong pasture because of damaged fences, gates left open, etc.

In 1988, all three operators met with Rich Adams, former range conservationist for the Headwaters Resource Area of the BLM, to find ways to lessen streambank damage, and improve plant vigor in heavily used upland areas without sacrificing livestock production. The group decided to pool resources and hire one range rider to serve all three allotments. The BLM provides the rider with a house trailer and worker's compensation coverage. In addition, a rest-rotation grazing system was implemented and off-stream stockwater developed.

A range rider has worked these allotments during the grazing season since 1989. The rider discourages cattle from concentrating in any one area of a pasture and moves the animals to areas that are underused. The rider understands the management objectives of the plans, monitors the animals and their use of the vegetation, and moves them between pastures when utilization levels have been reached.

BENEFITS

The operators are benefiting in many ways. Calves come off the range heavier because they are on better forage for the season. Operators all save time and money because they no longer need to work their allotments individually, and they also have the assurance of knowing someone is present on the allotments almost daily to respond to livestock illness, identify broken fences, etc.

Resource conditions are improving. Two of the three riparian monitoring stations have shown remarkable improvements. One station has seen an almost 50-fold increase in aspen cover. Water quality has improved because there is less bank erosion and cooler temperatures. Livestock use is better distributed. Soil and vegetation conditions have improved. Lastly, all parties better understand and agree on the management objectives of the grazing plans.

For more information, contact: Jeff Fenton, range conservationist, Headwaters Resource Area; BLM, Box 3388, Butte, MT 59702, 494-5059; Harvey Frank Robbins, Jr., Canyon Creek, MT 59633, 368-2280; Grady Livestock Company, Canyon Creek, MT 59633, 368-2277; Settle Ranch Company, Canyon Creek, MT 59633, 368-2274.

Water development in Edwards Mountain Allotment.

Benefits

- *Eliminated overuse of riparian and other favored areas*
- *Produced heavier calves*
- *Improved quality and quantity of forage*
- *Saved operators' time, labor, and money*
- *Improved livestock distribution*
- *Improved riparian resource and reduced streambank damage*
- *Achieved 50-fold increase in aspen cover*
- *Reduced water temperatures and improved water quality*

Rich Adams is the supervisory range conservationist for the Sonoma-Gerlach Resource Area, Winnemucca District, BLM, (702) 623-1500.

PRACTICES

- *Initiated 16-pasture short-duration grazing system*
- *Established small riparian pastures with electric fencing*
- *Established water gaps*
- *Excluded grazing along some stream reaches to allow willow establishment*
- *Installed gravel stream crossings*

MILESNICK RANCH

Gallatin County

by Pete Husby

LOCATION AND OWNERSHIP

The Milesnick ranch is located just north of Belgrade, Montana, in the scenic Gallatin Valley. Several spring creeks, Thompson Creek, and the East Gallatin River meander through the productive crop and pasture land on the ranch. The Milesnick ranch encompasses 1,400 acres and runs 200 cow-calf pairs.

MANAGEMENT HISTORY

Tom's grandfather acquired the original place in 1936. In the late '40s and '50s, dense stands of willow and buffaloberry were cleared for crop and hay production. Numerous bison skulls discovered during this process indicate a history of large ungulate grazing in the Gallatin Valley.

From 1936 to 1970, all of the cattle were run in a single herd and grazed a single pasture continuously, which degraded streambanks and diminished the fishery resource. From 1970 to 1990, the herd was rotated through three pastures, grazing each for 20 to 22 days, and resting each for 45 days before regrazing.

Riparian pasture enclosed by power fence is grazed from one to three days per grazing period.

Tom's interest in improving riparian and fishery resources led him to make some fundamental changes in grazing management on the ranch. He has worked with Gene Handle, a Natural Resources Conservation Service (NRCS) range conservationist, over a period of years to implement grazing management improvements.

CURRENT LIVESTOCK MANAGEMENT

Riparian management and improvement are priorities on the ranch. In 1991, Tom began a 16-pasture short-duration system with grazing periods ranging from one to three days and up to five grazings per year in any one pasture. "A short-duration grazing system needs buffer pastures for adverse conditions," Tom says. "We can graze our hay meadows or hay our pastures, depending on the weather."

To protect streambanks, he fenced out several small riparian pastures using inexpensive single-strand electric fence. A couple of these pastures can be grazed to the desired level by 200 cow-calf

pairs in one day. This limits the period during which streambanks are exposed to trampling and allows grazed plants to recover fully before being regrazed. Tom has built water gaps into some riparian pastures to provide livestock water while still limiting streambank trampling.

According to Tom, the most cost-effective practice has been the installation of gravel stream crossings which requires a 310 permit from the local county conservation district*. Gravel is hauled in and spread across the streambed between two gently sloping streambanks. The cattle have learned to use the gravel crossings almost exclusively, which has eliminated sediment production and greatly reduced disturbance of fish habitat and streambank trampling as cattle cross back and forth. "During a roundup," Tom says, "a cow will run for the gravel pad before trying to cross the stream."

Gravel stream crossing for cattle.

Tom has excluded grazing along some reaches of the East Gallatin River and Thompson Creek to allow willow establishment for bank stability, fish cover, and shelter for livestock during calving and weather extremes. "We're striving for more livestock protection from the weather and protecting the riparian areas."

Fishery improvements in spring creeks on the Milesnick ranch include the establishment of stream meanders and pool/riffle sequences and the placement of gravel for trout spawning. Tom has relied on professionals to design and install these fish habitat improvements.

Tom has found that total exclusion of grazing along riparian areas is not desirable. Canada thistle and other weeds often increase with non-use, especially under dense brush. Cattle foraging stimulates the growth of grass and shrubs so that they are better able to compete with noxious weeds. Weed elimination requires intensive, short grazing periods followed by adequate rest to allow full recovery of grazed plants.

BENEFITS

Tom has observed many benefits from his riparian grazing management program. Desirable grass and woody species are increasing and stabilizing streambanks. There is less bank trampling by livestock, reducing erosion and sedimentation. Fish habitat and water quality have improved, benefiting ownerships upstream and downstream. The increased riparian shrubs provide better cover for livestock during calving and weather extremes. Lastly, there are fewer weeds, increased forage, and more efficient use of the grazing resource.

For more information, contact Tom Milesnick at 388-4180 or Pete Husby at 587-6902.

- The 310 permit program is administered by county conservation districts. A permit is required for any activity that disturbs the bed or banks of a perennial stream. Other permits may also be required.

Benefits

- *Increased forage production and efficiency in forage use*
- *Reduced weeds*
- *Improved shelter in riparian areas for livestock during calving and weather extremes*
- *Increased shrubs and grasses along streambanks, improving streambank stability*
- *Decreased streambank trampling, reducing erosion and sedimentation*
- *Improved fish habitat*
- *Improved water quality*

Pete Husby is the state biologist for the USDA Natural Resources Conservation Service (NCRS) in Bozeman.

PRACTICES

- *Developed multiple pastures and initiated a deferred-rotation grazing system*
- *Does not manage riparian areas separately, but integrates them into his overall grazing system*
- *Developed numerous sources of stockwater*
- *Planted crested wheat-grass in upland pastures*
- *Initiated a range chiselling program in the uplands*
- *Established a monitoring program*

REUKAUF RANCH

Prairie County

by Scott Kaiser

LOCATION AND OWNERSHIP

The Reukauf ranch is located 32 miles northwest of Terry, between Big and Little Sheep Mountains. The ranch encompasses approximately 11,000 acres of deeded and public (BLM and state) lands. About 25 percent of the ranch is riparian area, which includes an abundance of ephemeral woody draws and the headwaters of the North and South Forks of Cherry Creek.

MANAGEMENT HISTORY

The Reukauf ranch was homesteaded in 1909 and supported a sheep operation until after World War II. During this time, the sheep and herds of wild horses denuded the range. In 1950, the ranch switched to cattle. It now supports about 300 cow-calf pairs annually.

CURRENT LIVESTOCK MANAGEMENT

In the late 1970s, Rob Reukauf, the current owner, developed multiple pastures and initiated a deferred-rotation grazing system where each pasture is grazed at a different time each year. Rob also developed numerous sources of stockwater to improve his grazing distribution and management flexibility. He does not manage exclusively for riparian areas. Rob says, "With good range management practices (frequent pasture rotation and long rests), these areas also benefit."

Stabilized bank showing old head cuts.

To improve his uplands and to draw the cattle away from the riparian areas, Reukauf has planted tame pastures of primarily crested wheatgrass and implemented a range chiselling program on 300-400 acres. The range chiselling breaks up the sod-forming blue grama grasses which have a lower productivity, and allows the more productive western wheatgrass to re-establish. Forage productivity and use is monitored to assess trends in the plant comunity's response to his grazing management. Monitoring techniques include the use of photo points and plant transects.

BENEFITS

From a riparian resource perspective, Rob's management shows significant benefits. Streambanks are well-vegetated. Despite occasional heavy runoff, no bare banks or eroded areas are evident.

Very little sediment runs down the creek. The increased vegetation cover has resulted in a higher water table, allowing springs to be more productive.

Woody draws in the pastures have an excellent diversity of shrubs and tree species with a variety of ages and sizes. The woody draws provide shelter during calving and shade during hot dry summers. They also provide cover for the abundant wildlife.

Because Reukauf does not manage for riparian areas exclusively, he has had no additional fencing costs. His upland improvement program has greatly increased the quality and quantity of forage available, easily drawing the cattle away from the riparian areas. There has been no invasion of leafy spurge or knapweed—although burdock and Canada thistle are present. Because of his good range stewardship, "BLM is more willing to cost-share water developments on my allotments," explains Reukauf.

Rob Reukauf and daughter, Jill, next to riparian area.

Reukauf showing upland monitoring area.

Stand of abundant, diverse vegetation in a woody draw.

In summary, Rob's grazing management strategy treats the entire rangeland resource, riparian areas and uplands, as a complete unit. The results are impressive. Riparian areas are healthy. Wildlife are abundant. Calf mortality rates are low and calf weaning weights are increasing. This ranch is an excellent example of proper grazing management in eastern Montana.

For more information, contact Rob Reukauf at 486-5573 or Scott Kaiser at 232-6359.

Benefits

- *Achieved well-vegetated streambanks*
- *Improved water quality*
- *Increased diversity of riparian shrubs and trees in woody draws provides shelter during calving and hot summer weather*
- *Supports abundant wildlife*
- *Higher water table and increased productivity of springs*
- *Greatly improved the quality and quantity of upland forage*
- *Resisted leafy spurge and knapweed invasions*
- *Lowered calf mortality*
- *Increased calf weaning weights*
- *Greater willingness of BLM to cost-share water developments on his grazing allotments*

Scott Kaiser is the resource specialist for the Miles City Regional Office of the Montana Department of Natural Resources and Conservation.

PRACTICES

- *Established 30 upland and 5 riparian pastures*
- *Implemented a short-duration, high-intensity grazing program*
- *Scalped away competing vegetation, and planted willows and other shrubs along streambanks*
- *Established permanent photo points, and measured new shrub and tree growth*

SKINNER RANCH

Gallatin County

by Pete Husby

LOCATION AND OWNERSHIP

Joe Skinner manages the livestock portion of the Skinner Brothers ranch, located in the Gallatin Valley a few miles north of Belgrade. The livestock operation manages 250 cow-calf pairs on 600 acres of deeded and leased land. About 160 cows are wintered over. Riparian areas are a prominent feature of the grazing lands, which are dissected by Smith Creek, Story Creek, and the East Gallatin River.

MANAGEMENT HISTORY

The ranch was homesteaded by the Cowan family (Joe Skinner's great grandfather on his mother's side) in the 1880s and has been in the family ever since. In the late 1940s and '50s, brush was cleared away from the streams to increase the land available for crop and hayland production. Season-long grazing further diminished the riparian resource along streams. Streams have become wider and shallower since woody streamside vegetation (willow and buffaloberry) was removed, leaving only grasses and sedges. During high flows, streams now flood a larger area. The loss of overhanging shrubs has also resulted in poor fish habitat due to lack of cover and food for trout.

Riparian pastures are managed exclusively for the benefit of the riparian resource.

CURRENT LIVESTOCK MANAGEMENT

Joe does not want to see more government regulation of private land use in response to water quality concerns, so he has taken the voluntary approach seriously. From 1986 to 1990, Joe initiated a three-pronged approach to riparian management on the ranch:

- Divided the ranch's 9 pastures into 30 pastures and established 5 riparian pastures
- Implemented short-duration, high-intensity grazing
- Began planting willows and other shrubs along streambanks to control erosion and reestablish fish and wildlife habitat

Joe established numerous pastures so livestock can graze a pasture intensively for a short period and then be moved. Short-duration, high-intensity grazing allows for more even use and more complete use of the forage available.

After observing the effects of his intensive grazing program for a few years, Joe found that during the hot season (about mid-July), as well as during the winter, the cattle browsed excessively on the streambank willows before they had used enough of the available grasses in the pasture. In 1990, he decided to create five relatively small (12 to 20 acres) riparian pastures along several reaches of stream so he could better manage livestock use of the riparian vegetation, especially the shrubs.

"My riparian pastures are managed exclusively for the benefit of the riparian area. I micro-manage these areas more carefully than I do my other pastures," Joe explains. "I find that early summer, after the streambanks have dried, is the best time to graze these areas. The cattle use more of the grasses and forbs in these sub-irrigated riparian areas when they are intensively grazed."

Willow cuttings planted in March '93 along Smith Creek.

Willow and other shrub cuttings have been planted along streambanks to speed riparian improvement. A backhoe was used to scalp away grasses and sedges before shrubs were planted to reduce competition from other plants.

The USDA Natural Resources Conservation Service helped Joe establish a monitoring program several years before he began his intensive grazing program. He has permanent photo points and measures the height of new shrub and tree growth in riparian areas annually. Photos and measurements are stored in a looseleaf binder. Monitoring has allowed Joe to see the effects of his short-duration, high-intensity grazing program and his riparian management program over time and to make changes when necessary.

BENEFITS

Skinner's management program has had many benefits. The short-duration, high-intensity grazing results in more forage being available, more even use of the forage, a greater diversity in forage species, and fewer weeds. In the past, Joe used to spray most pastures every year. Now he spot sprays only about ten acres to control weeds in his upland pastures. He finds that the intensive grazing effectively controls the weeds in his riparian pastures.

Fencing riparian pastures and controlling the time cattle spend in these pastures protects willows and other riparian shrubs from excessive browsing. Newly planted shrubs are stabilizing streambanks and reducing erosion, sedimentation, and property loss during high water.

Joe believes that landowners are only helping themselves by improving their riparian resources: property values increase, springs and streamflows are more reliable, and wildlife and fisheries respond dramatically to improved habitat. In addition, his livestock benefit from the greater quantity and quality of forage.

For more information, contact Joe Skinner at 388-4554 or Pete Husby at 587-6902.

Pete Husby is the state biologist for the USDA Natural Resources Conservation Service in Bozeman.

BENEFITS

- *Improved quality, quantity, and diversity of forage plants*
- *Achieved more even use of forage*
- *Reduced streambank erosion, sedimentation, and property loss*
- *Reduced weeds, so less weed control needed*
- *Increased property values*
- *Increased reliability of springs and streamflows*
- *Improved fish and wildlife habitat*

PRACTICES

- *Implemented a rest-rotation and a deferred-rotation grazing system*
- *Employed four riders*
- *Kept cattle scattered in small bunches*
- *Developed upland springs and off-stream stockwater; provided salt in the uplands*
- *"Trained" cattle to move out of riparian areas quickly by putting the same group into the same pastures yearly*
- *Started a coordinated resource management plan with a diverse group*
- *Monitors range and riparian condition*

SNOWLINE GRAZING ASSOC.

Beaverhead County

by Steve Davis

LOCATION AND OWNERSHIP

The Snowline Grazing Association manages livestock grazing on approximately 57,000 acres of public, state, and deeded land in southwestern Montana, 40 miles south of Dillon in Beaverhead County. This land includes 11,000 acres managed by the USDI Bureau of Land Management (BLM), 13,000 acres of state land, 11,000 acres within the Beaverhead National Forest, and 22,000 deeded acres. The deeded land and public land grazing allotments were all part of the Snowline ranch, purchased by the association in 1964.

The rangeland includes more than 80 miles of perennial and ephemeral streams, comprising the headwaters of the Red Rock River, which eventually flows into the Beaverhead River.

MANAGEMENT HISTORY

At the time of the association's purchase, the range condition was poor. With assistance from the USDA Natural Resources Conservation Service (NRCS), the association established a rest-rotation grazing system for the Beaverhead National Forest portion, where each pasture is rested from grazing for a full year during each rotation grazing sequence. A deferred-rotation grazing system was established for the deeded land. In this system, grazing is postponed or deferred for a prescribed period, usually from initiation of growth to seed maturity, to vary the season of use for each pasture each year.

Photo by Barb Landgraf

Riders are used to distribute cattle throughout pasture.

CURRENT LIVESTOCK MANAGEMENT

The range is divided into 40 pastures. The 25 association members run 4,500 cow-calf pairs in six groups, with each group assigned to a different group of pastures. Riparian areas are not managed as separate pastures. The association employs riders to keep cattle scattered across the uplands in small bunches and out of riparian areas. They started with three riders, but added a fourth in 1986 to help meet the Beaverhead National Forest's riparian guidelines.

Springs have been developed for stockwater, and water is piped out of the streams to off-stream stock tanks to reduce the time livestock spend in riparian areas and to encourage more complete use of the entire range. Upland salting also helps draw the cattle away from riparian areas.

"It's also been a matter of training the cattle not to hang around on the creek," explains Art Robinson, manager for the association. "It's worked better than we expected, and it works because we put the same group of cattle back into the same group of pastures year after year. The cattle and the riders are accustomed to the pastures, and the cattle just start heading out when they see a rider coming. The cattle used to be a lot harder to move."

In 1988, the association began working on the development of a Coordinated Resource Management Plan (CRMP) with many local groups and government agencies. The CRMP effort now includes Skyline Sportsmen, Montana Wildlife Federation, Rocky Mountain Elk Foundation, Nature Conservancy, Montana Departments of State Lands (DSL) and Fish, Wildlife and Parks, NRCS, BLM, USDA Forest Service (USFS), and the Snowline Grazing Association membership. The entire group meets monthly through the winter and hopes to have the CRMP completed by the 1995 grazing season.

As a group, representatives of the USFS, DSL, NRCS, BLM, and the association have begun monitoring range and riparian condition by using utilization cages, photo points, and measuring stream width and streambank alteration. This information will help manage grazing.

BENEFITS

The association's goal is a quality environment that includes livestock grazing. Under the rest-rotation and deferred-rotation grazing systems, the range condition and weaning weights have steadily improved. The additional cost of range riders has been offset by the benefit of having someone out with the cattle every day. The association believes that including the public in the development of a coordinated resource management plan will require compromise but will reduce the potential for conflict in the future.

For more information, contact Steve Davis at 684-5230.

Steve Davis is the president of the Snowline Grazing Association.

Annual tours are conducted with all CRMP participants and other interested parties.

Photos by Barb Landgraf

Monitoring is part of the management plan.

BENEFITS

- *Achieved better distribution of cattle*
- *Expedited early discovery of cattle sickness, lameness, or other emergency*
- *Reduced potential for future resource use conflicts*
- *Lessened concentration of livestock use in riparian areas*
- *Improved range condition and riparian areas*

- *Established six pastures*
- *Grazed 35 percent of available forage in spring pastures, 65 percent in summer pastures, and 45 percent in fall pastures*
- *Developed upland stockwater*
- *Hired a team of riders to keep cattle scattered in bunches in the uplands and out of riparian areas*
- *Voluntarily adopted the Beaverhead National Forest's "Riparian Grazing Guidelines"*
- *Monitored forage use and riparian condition according to the guidelines*

WARM SPRINGS GRAZING ASSOC.

Madison County

by Frank Mastandrea

Cattle are moved according to resource condition and forage availability.

LOCATION AND OWNERSHIP

The grazing allotment used by the Warm Springs Grazing Association consists entirely of Beaverhead National Forest lands. The allotment lies within the Warm Springs Creek drainage of the Ruby River valley, approximately 30 miles south of Sheridan, in Madison County.

MANAGEMENT HISTORY

The allotment has been grazed by sheep and cattle since the turn of the century.

CURRENT LIVESTOCK MANAGEMENT

The eight-member association runs 970 cow-calf pairs from early June through late October. The allotment has been divided into six pastures. Two spring pastures at 6,000 feet elevation are each grazed lightly (35 percent) by half of the herd for about a month beginning June 10 each year. The two summer pastures are at nearly 8,000 feet. These two pastures follow a rest-rotation grazing system where one pasture is rested completely every other year, and the other pasture is grazed 65 percent. Each of the two fall pastures has about 45 percent of the available forage grazed by the entire herd for about a month (mid-September to mid-October). By the time the fall pastures are grazed, the growing season is over. The grazing period for any of the pastures is completed whenever the Beaverhead National Forest riparian grazing standards are met.

Upland water developments have been the primary method of physical range improvements. Springs have been developed and the water put into stockwater tanks to attract livestock away from riparian areas and to lure cattle to lesser used areas of the range. However, the most effective part of the current management plan is a husband-wife team of riders that moves cattle off the creek. Most riding is done from mid-morning on, when cattle are most likely to congregate on the creek. The riders keep the cattle spread out in small bunches to minimize impacts. "Since our riders are on the ground every day, they are constantly observing riparian condition, and move the cattle accordingly," says Bruce Peterson, association president.

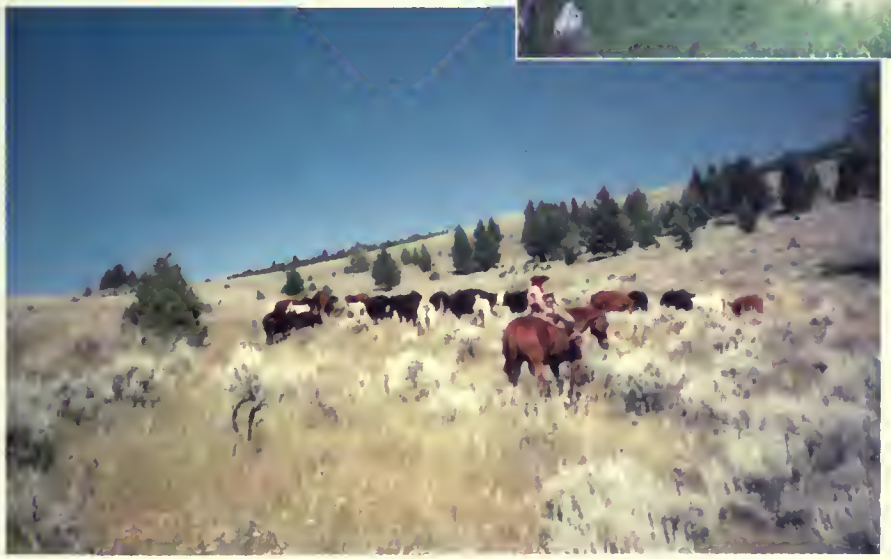
The association voluntarily adopted the Beaverhead National Forest's riparian guidelines. "I especially like that we can now move the cattle according to resource condition and forage availability, rather than having to follow a schedule that was made in the office last winter," explains Peterson.

The association's riders have worked closely with the Beaverhead National Forest's range conservationist to learn and implement monitoring practices in accordance with the guidelines. They take photos each year in the same places, measure feet of streambank trampled per 100 feet, measure stubble height after grazing, and measure forage utilization.

Well-vegetated streambanks in the allotment.

BENEFITS

"With public land grazing coming under intense scrutiny, it is very beneficial to have a management plan in place that allows the association to maintain AUMs while improving the condition of the grazing allotment. Our riparian areas are in good to excellent condition and steadily improving with new willow and aspen stands," Peterson said.



Riders keep the cattle spread out in small bunches to minimize impacts.

For more information, contact Bruce Peterson, Warm Springs Grazing Association President, at 842-5325.

BENEFITS

- *Maintained AUMs by carefully following their national forest grazing management plan*
- *Improved condition of grazing allotment*
- *Maintained riparian areas in good to excellent condition; new willow and aspen stands became established.*
- *Achieved more complete use of the forage resource*
- *Accomplished better distribution of cattle*

Frank Mastandrea is a resource specialist with the Montana Department of Natural Resources and Conservation in Helena.

PRACTICES

- *Created multiple pastures*
- *Developed off-stream stockwater*
- *Fenced off stream from cattle grazing*
- *Control streamside weeds using a hand sprayer*
- *Move livestock when they begin browsing on shrubs*
- *Planted 3,000 tree seedlings along their two miles of stream*

WILSON RANCH

Sanders County

by Joan Schumaker

LOCATION AND OWNERSHIP

The Wilson ranch is located between Thompson Falls and Trout Creek, just off Highway 200 south of White Pine. Two miles of Beaver Creek meander through the ranch property before joining the Clark Fork River. Beaver Creek is a productive trout fishery and has provided the family's drinking water since they moved there in 1959. The area receives about 30 inches of precipitation annually.

MANAGEMENT HISTORY

When the Wilson family acquired the ranch in 1959, it was primarily timbered with a few clearings. At that time, the ranch supported only 60 head of cattle. There were no fences, so cattle grazed freely throughout the ranch, and the creek was the only source of stockwater. Over the years, the family has cleared timber to create more productive hay land and pasture land for their purebred and commercial Hereford operation.

CURRENT LIVESTOCK MANAGEMENT

Jimme and Eileen Wilson and son, Pat, manage the ranch together. While Jimme served as president of the National Cattlemen's Association (1992), Pat took over much of the day-to-day ranch management.

The family's timber-clearing efforts have resulted in the creation of seven 80-acre pastures. Ranch cattle are divided into several herds of 50 cows and one bull that are rotated through the pastures. In an average year, the grazing season runs from May 21 to November 7. Cattle are moved from a pasture once the available grass has been consumed and cattle are beginning to browse the shrubs. "It's better to sell (livestock) off early, than overgraze a pasture," claims Pat Wilson. "You'll just hurt yourself for next year."

In 1980, the Wilsons decided to fence off Beaver Creek to increase their pasture management flexibility, slow bank erosion, prevent livestock injury due to steep, icy streambanks in winter, and protect the family's drinking water quality. Each year from 1980 to 1993, the family fenced off portions of the creek and developed off-stream stockwater using Consolidated Farm Services Agency (CFSA) cost-share programs. In fall 1993, the project was completed. The entire two miles of creek are now excluded from grazing. Six off-stream stockwater tanks have been developed from springs or by piping water from the creek.

The CFSA provided 50 percent cost-share for the stock tank construction and fencing materials. Livestock no longer graze inside the creek corridors, and 3,000 tree seedlings have been planted to revegetate the streambanks. Weeds adjacent to the stream are hand-sprayed to control their spread.

Pat Wilson shows their recently completed stock tank.

BENEFITS

The Wilsons have realized significant benefits from their changed management. Fencing off the creek has eliminated livestock injury on the steep, slippery streambanks during the snowy winters and wet springs of western Montana. In past winters, the animals used to walk down the banks through three feet of snow to reach the creek for water. Livestock injuries were common, especially for pregnant cows. During spring, livestock had trouble with their footing on the uneven, hummocky wet areas next to the stream. According to Pat Wilson, "Avoiding livestock injury is money in the bank, since dead calves don't gain as well."

Providing off-stream stockwater has also eliminated the need to chop ice in the stream for winter stockwater. The water in the stock tanks is warmer than the creek water, increasing the animals' food consumption efficiency and decreasing the herd's total winter feed requirements. "During the winter of 1993, our intake pipe from the creek to the stock tank froze, and we had to go back to watering the cattle in the creek," commented Jimme Wilson. "That experience sure made us realize how much better off we are now using off-stream stock tanks. We got that pipe fixed as fast as we could!"

Wilsons fence off their stream to avoid cattle injury on steep, icy banks in winter.

The stockwater developments have also enabled the Wilsons to increase their irrigation water supply, nearly quadrupling the hay production possible on their land. Overflow from one stock tank is allowed to run down the draw to Beaver Creek, creating wetland habitat along the way.

Before they were fenced, streambanks were being eroded each year by high flows. Riprapping the bank was labor-intensive and costly. The high real estate values in the area make every foot of streambank valuable and provide an additional incentive to stop erosion and stabilize the banks. "Every shovelful of soil going downstream is worth $10 in today's real estate market," jokes Wilson.

The fences achieve better pasture management **and** herd management. For the Wilsons' purebred Hereford bull operation, "It's critical that we have complete control over keeping the bulls separated from one another during breeding. It's also easier to keep track of the cows," added Wilson.

The family continues to obtain its drinking water from the creek. "It would cost $7,000 to $8,000 to drill a domestic water well. We like the idea that we can still drink from the creek, and we intend to keep it that way," said Pat Wilson.

Through clearing, pasture rotation, off-stream water developments, and increased irrigation capability, the Wilsons have quadrupled their herd size from the original 60 head. "Water and our 40 inches of topsoil are the lifeblood of the ranch. We have some of the highest weaning weights and lowest mortality rates of any place in Montana," Pat Wilson said proudly.

For more information, contact Jimme or Pat Wilson at 827-3623 or Joan Schumaker at 444-6667.

Joan Schumaker is a resource specialist with the Montana Department of Natural Resources and Conservation in Missoula.

BENEFITS

- *Quadrupled herd size*
- *Eliminated cattle injury and calf loss due to icy streambanks*
- *Eliminated need to chop ice in the stream for winter stockwater*
- *Increased cattle food consumption efficiency and decreased winter feed requirements*
- *Created wetland habitat*
- *Maintained domestic-quality drinking water in creek*
- *Eliminated streambank erosion and property loss*

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